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PATENT ABSTRACTS OF JAPAN(21) Application number: **03215593**(51) Intl. Cl.: **B08B 3/12 B01D 19/00**(22) Application date: **27.08.91**

(30) Priority:	(71) Applicant: TORAY IND INC
(43) Date of application publication: 09.03.93	(72) Inventor: NISHIMURA KAZUHIKO HATANO YUKIO SHIMADA KOJI
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(54) ULTRASONIC WASHER

(57) Abstract:

PURPOSE: To continuously remove dissolved gas during washing to perform effective ultrasonic washing by providing a circulating line for making washing liquid inside a washing tank pass through a hydrophobic gas-diffusible membrane module by a liquid supply pump before returning again to inside the washing tank.

CONSTITUTION: After washing liquid inside a washing tank 1 are made to pass through inside a hydrophobic gas-diffusible membrane module 4 via a line 6 by a liquid supply pump 3. they are returned to the washing tank 1 through a circulating line 7. In the meantime, a passage communicating with the back of the membrane inside the hydrophobic gas-diffusible membrane module is kept under reduced pressure conditions sucked by a vacuum pump 5, causing dissolved gas in the washing liquid to

be diffused and removed to on the back side of the membrane. The concentration of the dissolved gas in the washing liquid at the outlet of the hydrophobic gas-diffusible membrane module 4 is lowered and the dissolved gas in the washing liquid inside the washing tank 1 is removed to the desired concentration. When substance to be washed 9 is immersed in the washing liquid as they are and an ultrasonic generator 2 is operated, effective washing is performed.

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